DEPARTMENT of ENVIRONMENTAL SERVICES Water Division - Watershed Management Bureau

LAKE TROPHIC DATA

MORPHOMETRIC:

Lake: WINNIPESAUKEE, MERED. BAY Lake Area (ha): 18043.40 Maximum depth (m): Town: MEREDITH 54.9 Mean depth (m): 13.1 County: Belknap River Basin: Merrimack Volume (m³): 2375841000 Longitude: 43°38'08" N
Longitude: 71°28'35" W
Elevation (ft): 504
Shore length (m): 386200
Watershed area (ha): 87128.8
% watershed ponded: 4.2 Relative depth: 0.4 Shore configuration: 8.11 Areal water load (m/yr): 2.63 Flushing rate (yr^{-1}) : 0.20 P retention coeff.: Lake type: natural

14 August 2001
CHRYSOSPHAERELLA 75%
ASTERIONELLA 10%
DINOBRYON 4%
2.35
KERATELLA 28%
NAUPLIUS LARVA 14%
ROTIFER SPP 14%
76
31
119
8.0
8.5

SUMMER THERMAL STRATIFICATION:

stratified

Depth of thermocline (m): 10.0

Hypolimnion volume (m^3) :

Anoxic volume (m^3) : None

CHEMICAL:	e: WINNIPESAUKEE, MERED. Ba		RED. BAY	
		14 7	August 200)1
DEPTH (m)		3.0	11.0	20.0
pH (units)		6.9	6.8	6.5
A.N.C. (Alkalinity)		4.7	5.8	5.8
NITRATE NITROGEN		< 0.05		< 0.05
TOTAL KJELDAHL NITROGEN		0.10	< 0.10	0.10
TOTAL PHOSPHORUS		0.006	0.007	0.009
CONDUCTIVITY (µmhos/cm)		68.8	71.8	74.7
APPARENT COLOR (cpu)		7	8	8
MAGNESIUM		0.64		
CALCIUM		3.5		
SODIUM		7.3		
POTASSIUM		0.70		
CHLORIDE		12		14
SULFATE		4		4
TN : TP		17		11
CALCITE SATURATION INDEX		3.2		

All results in mg/L unless indicated otherwise

TROPHIC CLASSIFICATION: 2001

D.O.	S.D.	PLANT	CHL	TOTAL	CLASS
0	0	0	0	0	Oligo.

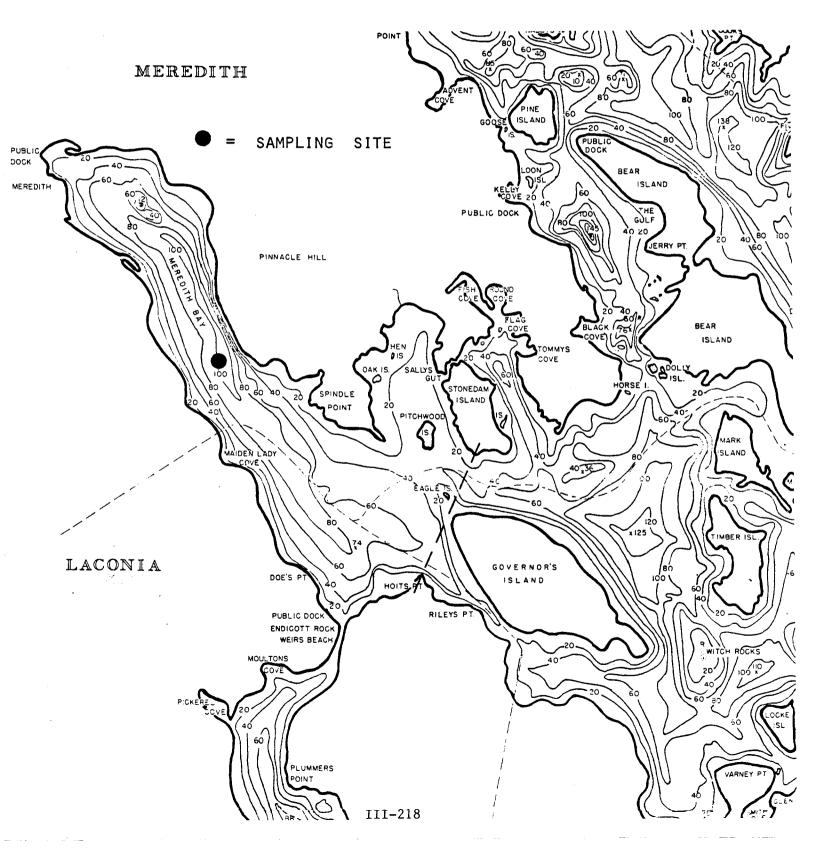
COMMENTS:

- 1. Previously surveyed in 1979, 1984 and 1990.
- 2. No plant survey was conducted in 2001. Plant abundance for trophic classification is from the 1990 survey.
- 3. No winter samples were collected. The lake never froze solid during the winter.
- 4. No depth soundings were conducted. The thermocline depth is from the 2001 survey but all volume, depth and flushing rate values are based on the 1974 EPA report.

MEREDITH BAY



BATHYMETRIC CHART
&
STATION LOCATION



FIELD DATA SHEET

LAKE: WINNIPESAUKEE, MERED. BAY TOWN: MEREDITH DATE: 08/14/2001 WEATHER: Sunny, warm & br WEATHER: Sunny, warm & breezy

DEPTH (M)	TEMP (°C)	*DISSOLVED OXYGEN	OXYGEN SATURATION
0.1	24.7	8.6	103 %
2.0	24.7	8.4	102 %
4.0	24.4	8.7	104 %
6.0	22.9	9.7	112 %
8.0	20.9	10.1	113 %
9.0	19.5	10.4	113 %
10.0	15.2	11.1	111 %
11.0	12.5	10.9	102 %
12.0	11.3	10.5	96 %
13.0	10.1	9.3	83 %
14.0	9.5	9.1	80 %
15.0	9.4	8.9	78 %
20.0	9.0	8.9	77 %
25.0	9.0	8.9	77 %
30.0	9.0	8.5	74 %
		-	

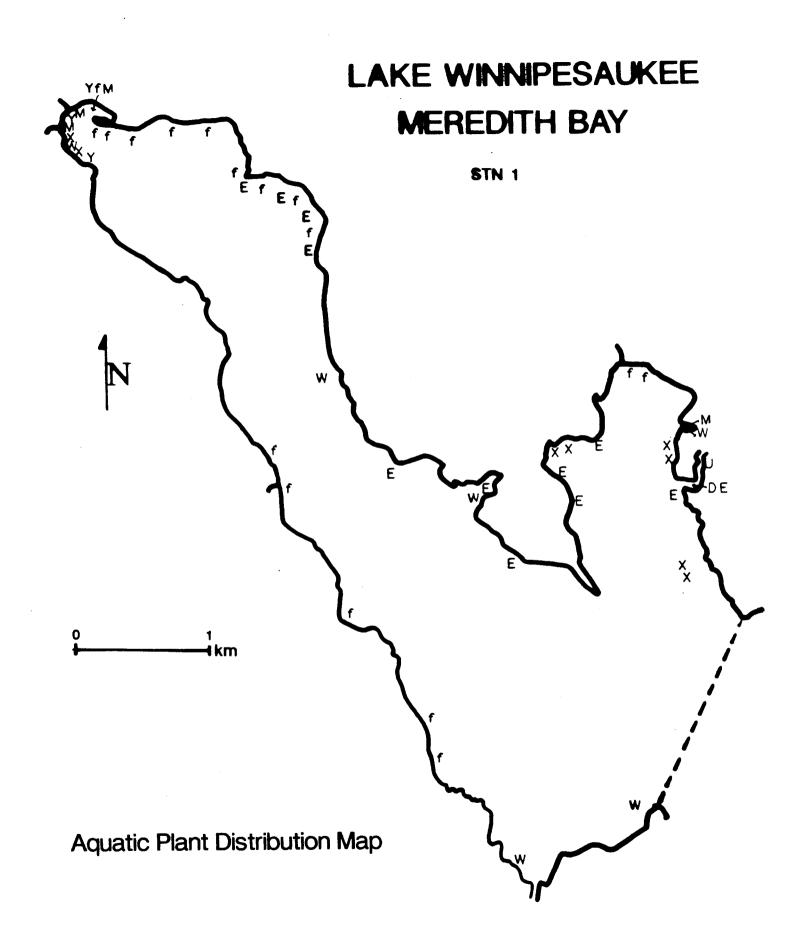
SECCHI DISK (m): 8.0

COMMENTS:

BOTTOM DEPTH (m): 30.5

TIME: 1400

*Dissolved oxygen values are in mg/L



AQUATIC PLANT SURVEY

LAKE: WINNIPESAUKEE, MERED. BAY TOWN: MEREDITH DATE: 07/25/90

V	PLANT	NAME	ABUNDANCE
Key	GENERIC	COMMON	ABUNDANCE
W	Potamogeton	Pondweed	Sparse
Y	Nuphar	Yellow water lily	Sparse
f	Chlorophyceae	Filamentous green algae	Scattered
M	Myriophyllum heterophyllum	Water milfoil	Sparse
E	Eriocaulon septangulare	Pipewort	Sparse
S	Sparganium	Bur reed	Sparse
U	Utricularia	Bladderwort	Sparse
D	Decodon verticillatus	Swamp loosestrife	Sparse

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OVERALL ABUNDANCE: Sparse

GENERAL OBSERVATIONS:

- 1. Filamentous algae growing along the bottom or attached to rocks were found at numerous sites throughout the area. Excessive amounts of bottom growth and algae were located near the public docks in Meredith.
- 2. Bottom algae growing in front of Meredith Moorings was undergoing a permitted algaecide treatment at the time of the survey.